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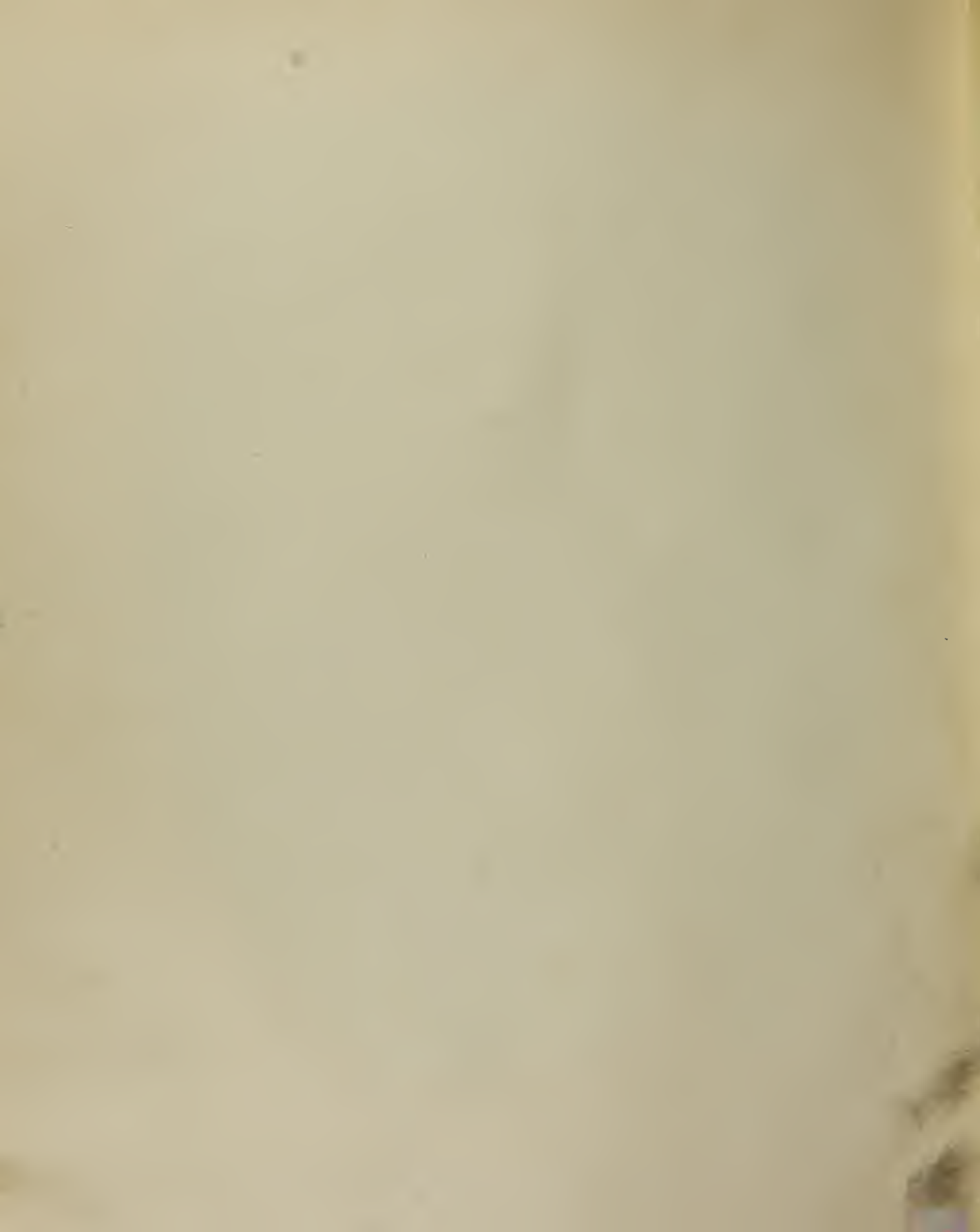
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THE PSYCHICAL IMPORT OF VARIABLE ACHROMATOPSIA ; AN ORIGINAL RESEARCH.

BY JOHN EDWARD PURDON, A. B., M. D., CULLMAN,
Junior Counsellor of the Medical Association of the State of
Alabama.

[Re-printed from the Transactions of 1892.]

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1892

ERRATA.

- Page 2, ninth line from top, *truth* should be *trust*.
Page 2, ninth line from bottom, *sensitivities* should be *sensitives*.
Page 5, sixth line from top, *past* should be *fresh*.
Page 9, fourth line from top, *light* should be *lights*.
Page 9, sixth line from top, *simple* should be *single*.
Page 9, fifteenth line from bottom, *axis* should be *axes*.
Page 12, sixth line from bottom, *vibatory* should be *vibratory*.



THE PSYCHICAL IMPORT OF VARIABLE ACHROMATOPSIA ; AN ORIGINAL RESEARCH.

BY JOHN EDWARD PURDON, A. B., M. D., CULLMAN,

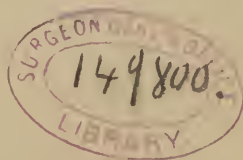
Junior Counsellor of the Medical Association of the State of Alabama.

[Re-printed from the Transactions of 1892.]

The title of my paper is rather a formidable one, but shorn of technical language it is a condensed expression for the implication that there exist certain cases of functional nervous disturbance in which variability of the color sensibility is a prominent feature, and that such variation is accompanied by changed mental and physical conditions.

Color blindness proper, a congenital affection, does not directly enter into the consideration of this class of derangements since the color vision in all my cases was at times perfect. Indeed the sharpness of this function was the inlet by which alone I could test the nature of the changes that occurred from time to time in the persons under observation.

The name of Mr. William Crookes, F. R. S., the celebrated chemist, is well known to you all, and his experiments in the line of psychical and spiritualistic research are some of the most accurate on record. The persons named in this paper as furnishing valuable physiological data were some of those with whom he made his most widely published and most startling observations. I have in my possession a photograph, prepared by Mr. Crookes himself, in which he appears with a duplication of one of the sisters of the family I am about to describe, leaning upon his arm, his own account going to show that her natural body was at the same instant lying in a state of trance behind the curtain, before which he was standing, with her double leaning on his arm. I do not here offer any explana-



tion of the *modus operandi* by which this ethereal body was produced, that being beside our present purpose ; but I do offer what I regard as of much more importance to us as physiologists, namely, accurate notes taken regarding the state of that most complex but most directly presented sensorial function, vision, under circumstances directly parallel to those holding when Mr. Crookes obtained his physical data from members of the same family. No one who is inclined to place even a very small amount of truth in me as an observer will feel justified in ignoring the value of these case notes. If these are of no more value than to show that apparently simple sensorial entities are in reality very complex, being constructed out of simpler elements of feeling and so liable to disturbance, on account of the different possibilities of arrangement of such elements in time, number and order, the research is of a certain value from an educational point of view. As a practical matter the inquiry is also useful, for it tends to show that under conditions of nervous disturbance and specific excitement the natural signs and landmarks of objective nature are interfered with. The research shows that the colors so familiar and so fixed may vanish for the time being without interference with the general consciousness or decadence of the intellectual powers, to be restored after a time to their full recognition as permanent elements of healthy sensation.

But it is as a first step into the mysterious region of the unknown, between which and us the sensorial barriers become broken down, on occasions, that I attach value to such an inquiry. In a word, the ladies whose sensorial disturbances I record in this paper were what are called mediums or psychic sensitivities, who have been repeatedly certified to as producing the most genuine and startling manipulations of an unknown power by Alfred Russell Wallace the great evolutionist, William Crookes the celebrated chemist and physicist, and many others distinguished in art, literature and science. Anything of a physiological nature, out of the common, during and after such manipulations must be worth recording, and I hope will be my excuse for venturing to present you with a subject so far out of the beaten track.

During the last three years I have been bringing before the profession, through two of the leading medical societies of the south, certain physiological and physical matters which I believe to be calculated to throw light upon that mysterious department of psychology which goes under the name of "Psychical Research." On the present occasion I have selected the subject of variable color vision as being one which was urged upon my attention from the fact that I found its most marked indication in the members of a family well known to students of the occult, and who, some fifteen to twenty years ago, were regarded as some of the best mediums in England for the manifestation of the mysterious psychic force which has been the great puzzle and paradox of this generation.

In the middle of the year 1871, I commenced the practical study of psychic science, and some months after I had my attention called to peculiar periodical variations of visual functions in the case of a young lady sensitive with whom I was experimenting. I perceived that she suffered from what I afterwards found was described by Charcot as the hysterical eye, or, at any rate, that her case was related to the latter. For the greater part of each month she suffered from weakness of one eye with loss of accommodation and imperfection of color vision, which, however, were both corrected by a seven or eight inch minus glass. She also perceived black bands or rings drawn on paper to be thickened and doubled in a certain uniform way, when observed through the uncorrected eye, although the sight of the other eye was very good. As this young lady was at that time becoming famous as a medium, I eagerly embraced every opportunity that offered to study such cases as hers, in the hope of finding some clue to the nature of the changes that take place in the cerebral machinery whenever there were present manifestations indicative of the activity of psychic force. I noticed that at a certain time each month both the power to manifest the special psychic activity and the abnormal vision disappeared together, leaving the inference to be drawn that abnormal color and ray vision and the psychic potentiality co-existed in her case, and

most probably were related in consequence of a strained condition of certain parts of the brain to be determined by other observations.

Further experience tended to confirm this view, for I found, in the case of this young lady, during actual manifestation of great psychic power, a total disorganization of distinct color perception and discrimination, while the evidence of brain strain and congestion was furnished by profuse nose bleeding coming on during the actual exercise of the psychic power. My attention having been turned in this direction, I found several instances of analogous color vision disturbance in patients of mine who were haunted by subjective spectral figures, not dependent upon drink, opium or similar exciting causes. I think I may safely say that in all these cases the cardiac innervation was imperfect—a sign of the general condition of the nervous system.

Some years after I first noticed the above relations, I had good opportunities of studying the vision peculiarities of two sisters of the first mentioned medium, both bright and intelligent young women who did their best to assist me in my research. The elder of these sisters, Miss K. C., was affected in the left eye, generally corrected by a minus glass as in the case of her eldest sister. The younger sister, Miss E. C., was affected in the right eye, generally corrected by a plus glass. This interesting contrast was verified again and again. Their ages were 24 and 18 years.

In my examination of these girls I used Holmgreen's wools, and colored glasses of many shades, and the colors were obtained by passing polarized light through doubly refracting crystals, the latter being very convenient for the study of complementary colors and the variations occurring in the perception of the same.

In submitting the following notes, I wish them to be regarded as an account of qualitative experiments made under conditions quite unfavorable to quantitative, and, more properly speaking, scientific observations. I can at any rate vouch for them as representing the facts and as fully supporting my

trust in the value of similar experiences with other persons of the mediumistic or sensitive temperament. I can positively say that I have never perceived a gross contradiction corresponding with an attempt to deceive. Order in disorder, for the time being, is what I have observed. Any new departure, corresponding to some past peculiarity of the sensitive organization, had only to be followed up to be identified as a member of a class.

April 29th, 1883, Miss K. C., a wonderful medium for all kinds of physical manifestations, was examined with the double image prism previous to *séance*. She could see with the left eye but one image of a pencil mark ring on white paper, that one which was most refracted. She placed the point of a pencil a good way outside the circumference of the circle when asked to put it exactly in the centre. As the paper was moved the ring was unstable in its position. The prism showed two rings in the ordinary manner to the right eye. After the *séance* she could not see at all with the left eye. The right eye remained unaffected.

Miss E. C., before the *séance*, saw the two images through the double image prism, but much separated from each other. She also remarked, when she looked at the ground glass globe of the gas lamp, that one of the images, that which was most refracted, showed broad colored bands taking up nearly the whole of the outline, in place of the normal mere edging of color.

May 2.—Miss K. C. could see only one image through the double image prism held to the left eye. When that eye was supplied with a seven inch minus glass she saw both images quite well. An experiment was then made with plates of of selenite between two Nicol's prisms. The color of the purple and greenish yellow selenite were called blue and yellow, but when the true blue and yellow selenite was placed between the two Nicol's prisms the colors were not recognized at all. Thus it appears that red and green, which were components of the purple and greenish yellow, were unperceived in the first pair of colors, while the blue and yellow, the *in-*

ferred perception after such abstraction, were not perceived when *directly* presented in the second pair of selenite colors. After the *séance*, which was a very good one, the medium could not see with the left eye; the correcting concave glass, which was useful before the *séance*, having, after it was over, no effect in restoring her sight. The circulation, judging from the radial pulse, was weaker on the left side than on the right after the *séance* and neither ring could be seen through the double image prism.

Miss E. C. was examined before the *séance* with the double image prism and also with the selenite plates. She saw the two images correctly, and also the colors, but afterwards though she could see the two images through the prism she had lost all sensibility for color on the affected side. Both the young ladies were examined with the colored wools after the *séance*; they had lost all power of distinction.

A careful observer called my attention to a circumstance she had noticed and which had a bearing upon the variation of color perception in the case of Miss K. C. On the fourth of May, after walking through town and feeling tired, she was affected with transient right hemianopsia; that is, she saw with the left half of each retina, the other half being but little responsive to the stimulus of light, or rather the visualizing centers in connection therewith. But the dark half-field proved on trial to be more marked for the right eye than for the left. When looking at a face she saw only the half of it, but she could see distinctly the whole of a bright gas flame. With the left eye she could see a shaded half face, the other half being distinct, while with the right eye she could see only the half face, the other half being perfectly blank. When examined with the purple and yellowish green selenite, placed between two Nicol's prisms, the left eye saw the colors correctly, but to the right eye the red-violet or purple was reduced to blue and the greenish-yellow to yellow; that is to say, the red was cut out in the one case and the green in the other. Shortly after the examination, while moving about, she got a headache across the eyes, when on trial the hemianopsia had

disappeared and the colors were the same exactly to the two eyes.

This lady at times, when similarly exposed to the sun and to fatigue, had become temporarily aphasic, evidently on account of irregular circulation in the cerebral cortex. Physiologically speaking, her case was in many respects an exact parallel to those of the psychic mediums here described, and, therefore, calculated to throw some light upon them.

May 6.—Miss K. C. was examined in good light before the *séance*. She had remarked while out walking with me that red and yellow tulips appeared to her as “gray.” Examined with the colored wools—red, dark red, blue, dark blue, light blue, yellow and blue-green were all called “gray.” A seven inch minus glass corrected the achromatopsia completely. When using the double image prism she saw but one ring with the left eye, but with the minus glass added she saw both rings. When a beam of polarized light from a Nicol’s prism was passed through plates of selenite and the double image prism added to complete the combination, she saw the double beam in complementary colors with the right eye, its normal appearance, but to the left eye it showed as a single colorless beam. This was true for the blue-yellow selenite, and also for the red-green, or, more properly, blue-red and yellow-green; a single colorless image was in all cases perceived. When, however, the left eye was armed with the seven inch minus or concave glass, the vision of the left eye was exactly the same as the right. After the *séance* (and I may remark that all the *séances* here referred to were satisfactory in the way of manifestations of extraordinary activity), she could not see at all with the left eye; neither color nor ray vision remained. The glass so marked before in its effect did not restore the color of the wools, which were all described as “grays.”

Miss E. C. was examined the same day. She called the green, blue and yellow wools “gray.” Dark blue was called very dark gray. The cherry red and dark red she called “dark red” and “very dark red.” With the double image prism both eyes behaved alike, vision being normal. A check

experiment was then tried. On overlapping one of the images of a piece of green glass, looked at through the double image prism, on one of those of a piece of red glass placed near it, both being held up against the light, she did not perceive the change that under ordinary circumstances is due to the superposition of lights of different colors, she simply experienced the sensation of redness, the green being entirely absent from her apperception. The images of blue and yellow glass overlapped as "gray" without any change being noticed. The eye was then reinforced by a strong convex glass, and she saw all the colored objects when brought to a distance of four inches from the eye—the green required to be brought nearest. Outside of that distance the red alone was seen as a diffused light red. When tried with the selenite plates she saw the red-violet and yellowish-green as violet and yellow, using her sound left eye, but with the right eye, that which was the peculiar one, she saw only the red or red-purple shade, the yellowish-green complementary being entirely absent.

This young lady was examined after the *séance*, during which she was for a short time "entranced." It was found that she had lost all color sensation on the left side. The double image prism showed double images without color; the wools were all "gray" to the left eye. She remarked that the double images of a pencil mark ring as seen by the left eye appeared much larger than those seen by the right eye. They had to be brought much nearer to the eye before their circumferences touched than in the case of those seen by the right eye; say, about five inches in the former case, and ten in the latter. Before the *séance* this distance was the same for both eyes, as I had noticed after careful observation.

May 27th.—Before the *séance* Miss E. C., in day light, saw through the double image prism two images when using the weak left eye, though she could not perceive the colors of any of the wools offered for inspection. The sight of the right eye was quite normal. After the *séance* she saw but one image of a ring drawn on paper through the prism when the left eye was used. The concave glass corrected the defect,

and enabled her to see both. During the *séance*, which was held in the dark, and where many lights were seen flitting about, she remarked that she could not see the lights doubled by the prism. She over and over again said she saw the light very small and simple, and this she said was the case with the two eyes. While examining her after the *séance* and while her weak left eye was corrected with the concave glass, to enable her to see the double image of the ring, pressure was accidentally made on the right eye-ball, that eye being closed at the time; she immediately remarked that she saw four images! This extraordinary observation was repeated again and again with the same result. These images did not fade out as the prism was turned round. Before, when she saw the second image through the aid of the concave glass, one image faded out as the prism was turned. On the same occasion Miss E. C. could see the double image through the prism before and after the *séance*. She saw the colored wools somewhat better than usual; she could see red pretty well, both dark and light, but she called the blues "greens," and the yellows "gray." During the *séance*, she declared that she saw the lights which appeared in the dark room double, but this proved on examination to be in all probability due to want of proper adjustment of the axis of the eyes, so as to let the rays fall on corresponding points of the retinae; for when each eye was closed in turn the lights appeared to be single to the open eye. I merely mention this to show that rational precaution against error was always observed.

It appeared from observation that every member of the family, including the mother, three daughters and one son were more or less the subjects of abnormal color sensibility. It was ascertained that Mrs. C., the mother, possessed the following remarkable peculiarity. On being given light pink wool to match, the left eye being closed at the time, she picked out a darker pink from a group of colored wools. She was then given the same pink to match, the right eye being closed, and she picked out a very light brown. But strange to say she matched colors well when using both eyes. She gen-

erally makes choice of lighter shades with the left than with the right eye singly. There was also in the case of her son, a youth of eighteen years, a difference of color appreciation on the two sides without pronounced achromatopsia, as in the case of his three sisters.

The following notes are very interesting as throwing light upon the puzzling question of deranged color vision: Miss K. C. was examined with colored glasses on January 16, 1882. On that occasion she exhibited the remarkable peculiarity of reverse color vision for red and green. When green glass was held to her left eye, the right being closed, she at once said, "red, a nice bright red." This was said to be the same sensation as when red glass was held to the right eye. Again, when red glass was held to the left eye, the right being closed, it was called "green." It was said to cause nearly the same feeling as when green glass was held before the right eye. The same was found to be the case after a *séance* on the 18th of January, the colors, however, being darkened, while yellow light was called "gray," and blue and yellow light "black." All the colors were restored when a concave glass was held outside the colored plate at a distance of four inches. When held closer to the eye it had no effect. These experiments were several times repeated with the same result.

On January 29th, 1882, an interesting observation was made in the case of the eldest sister with whom I had experimented ten years before and with whom I had first studied the psychical import of variable color vision. When a plate of green glass was held before her weak eye she said the light was "gray," but immediately on its removal she said she saw "violet." When red glass was held to her eye she said it was "gray;" then, when it was taken away, she said she experienced the sensation "green." This may be relied on as certain. With her good eye this remarkable peculiarity was less pronounced. It will be seen that it gives the key to the reverse visions of her sister, described above. The elder sister showed what I may call semi-reversal.

It appears from these results that both red and green sensa-

tions may be excited by the same physical cause; but the special sensation is determined by the state of the organism at the time. The theory of color blindness advanced by Mr. W. Stanley Monck of Trinity College, Dublin, receives support from the above observations on reverse vision. His idea was that in true color blindness, owing to a functional peculiarity of the organism the pair of complementary colors were excited together with a neutralizing effect, by the presence of the stimulus corresponding to either of them acting on the retinal expansion.

The conclusions to be drawn from these experiments appear to me to be as follows:

1st. Nervous states with a tendency to hysteria may be accompanied by a derangement of accommodation in one or both eyes, which is indicative of a more general defect of "attention" on the part of the automatic centres of the brain, whereby the elements of sensation are generally combined into higher psychical complexes. Observation with the ophthalmoscope and otherwise led me to the belief that functional inactivity depends rather upon a deficient supply of blood than upon direct inhibition. I found that forced attention restored the visual function in one of the sisters when I used a distorting instrument, "Stokes' lens," to excite her curiosity when looking at small type.

2d. The existence of this state is a predisposing cause, in the manifesting of psychic phenomena, such as are usually shown by respectable mediums under test conditions, at least in the instances of the young ladies here referred to; while the nose bleeding and the aggravation of visual defects in them gave direct evidence of congestion or stasis of blood in the brain and probably also of anæmia in varying and unknown degrees, the latter supposition being supported by the trains of objective nervous symptoms so commonly seen in the case of "mediums" during "manifestation."

3d. The actual occurrence of extraordinary psychical events being provisionally granted for the sake of an application of physiological theory, it appears very probable that the

relationship of the cerebral cortex to the muscular system is profoundly modified, and to such an extent that psychical states find other modes of expression than those depending upon the mechanical influence of a visible and tangible intervening substance, the nervous system being thereby placed in a more direct relationship with the space content.

The correlation of the visual and muscular systems being found by observation and experiment to have been interfered with, it is allowable to speculate upon possible manifestations of psychical activity in which heat does not play so prominent a part on the psychical side of the sequence, other modes of vibratory action taking its place, with a corresponding change in the psychical chain. There is a complete analogy afforded in the region of mechanical philosophy when physicists attempt the direct transformation of latent energy without the intervention of the steam (heat) engine, muscle being a heat engine and the most economical that we know of.

Don't know how
to write & my
name & address
the photos. Put them
in envelope file

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1892

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My dear Doctor Billings,
I had a note
from Prof Langley to
day, that he would pass
on & run the photos of
sphygmographic tracings
taken by me with the
view of illustrating the
existence of what is com-
monly called rapport of
sympathetic physical
relations of our nervous
system with our S. H. I wrote
to thank him adding that
there was no one but
I would better make I think
my work submitted.

In 1881 the idea first
struck me that if such

a thing as thought. Reading, community of sensation and all these interactions claimed to take place. Actually did exist and I had excellent reasons to believe that they actually did exist) the story of the same might be somehow related to the functional activity of the organism so engaged. I was not long using the kymograph before I found another suggestive of thought.

I was fortunate enough to have at that time a couple of young ladies staying at my house who as time progressed furnished valuable data. I found

that Miss K. R. a cousin
of my wife was very sensitive
about the time of her men-
strual periods and that her
left radial trace was generally
like that of my wife or my
own. I think there can be
no doubt about this.
I also had under observation
in hospital (I was Surgeon
Major in Charge at Guernsey,
Channel Islands) several
neurotic subjects, suffering
from rheumatoid com-
plications who confirmed
the other observations, show-
ing supports with myself
and with each other. The
evidence that I produce
will have thus beyond
question. Finally when
I drew my report will

Some fortunate enough
to find three persons who
with myself afforded the
interactions which supply
the similar tracings which
you have been sent
to me. I actually got like
me as tracings and good ones
when the so-called spirit-
knocks were heard by myself
as well as others.

The men Lynch and Willie
were in a prisoners ward by
themselves with bars on the window
down and under lock and key.
The woman Fenger lives
in the next room with her
husband an orderly with
a brick wall between her room
and the prisoners' ward.
She never had anything to do
with the two men and yet
there are close resemblances
between her traces and those

17 It is the the men (generally
separately) who cannot
be put down & accident.

This woman often
showed tracings like my
men as did also the men
both separately and together.
For instance on the 11th
Jan⁹-81 we were all there
like one another while
the woman was cut off
from us having at that
time a violent risk ^{headache}

The men were (with
neurotic subtleties and
bad characters, (especially
speaking) who were always
getting into trouble. The
woman was more or less
schizophrenic and had an
attack of unconscious-
ness about the time.

The noises and distur-
bances heard in the pris-

ever's' Ward were first
complained of. She was
however much more
stable in her nerve tone
than were the men who
had little or none specially
Williams. As Dr. myself
I must say that I have a
powerful organization
with a tendency to the emotional
and the imaginative but
with an intellect trained
in the physical and mathe-
matical sciences that
makes everything submit
bit for an explanation.
My brother has the gift
(or negative attribute - of your
will) of clairvoyance &c;
so that though I have never
exhibited any of these
mediumistic traits myself

personally I am not wholly
different from those who are
so constituted.

My experiments showed me
that generally those who
were actuated by others showed
different tracings on the
two sides, one of which
was alone like the person
acting upon him - this
approach the very general
second that the fact of
isochronous pulses was
not necessary in the case
of evident likeness,
one pulse being occasionally
much slower than the
other. Thirdly that part
of a tracing might be
very like that of another
without the resemblance
being continued either in

be the individual tracing
or in the succession of other
heart cycles. The fact of
likeness, without reference

to the details of its physical
causation is the fact truth
upon which I insist, in
the first instance.

To produce these results
it is necessary to have one who
may be said to have no fixed
individual tracing of his own
indicative of a stable organic
character, like handwriting, when
when he is so disturbed retains
the impression made upon him
for a greater or less time or
the case may be.

From these likenesses I
argue to the existence of a
common organic attitude
during the existence of
the heart, a small
slice of which is shown
on the V and the sphygmograph.

we must believe that
all psychical states - both
physical states - correspond-
ing to them, (the other side of
them in fact) the existence
of a back image of energy
distribution (a blood image
as I call it for short) must
be postulated as antecedent
to the execution of any design
so that the blood may be dis-
tributed to the tissues in ac-
cordance with the functional
activity to be brought into play.
But - it is in accord with
all modern physiology
to believe that when energy
is expended by the living
body that it is from a store
of potential energy that
the drain comes and not
from the instantaneous
change of tissue from
moment to moment for -
it would be next to im-

possible to frame a theory
of designed work distributed
throughout the elements
of the body regarded as
units undergoing chemical
change.

The case is just different
however when we suppose
a life-stuff, a protoplas-
mic matrix, into which
design is, as it were,
moulded potentially,
to be returned actualized
in the reduction of that
protoplasmic mass to
its ashes, water, carbonic
acid, urea &c. We
have here a consistent
system of thought for it
is this stuff which we
must suppose to be in
dynamic connection

with the ether or space
content proper is,
the actual and the sub-
stantial in its objective
aspect. Physicists have
hitherto used the hypothet-
ical ether to account
for their phenomena by
endowing it with all
the required properties.
The workers in physiology
and psychics are going
now to take a hand and
endow the ether with
such properties as we
require and a very natural
one is a vital relation
to all living beings.

With the pulse tracings
sent to the Smithsonian
Institution there have en-
closed some photos of

What have been previous
in England as "The Beattie
Photographs". There is no real
sense about them. They
are pictures of the stuff
which comes from the
bodies of "mediums" on
occasions. It is physiolo-
gical or pathological, &
you must depend on it. The
photos were taken by Mr.
John Beattie and Dr. George
Thompson of Bristol England
in 1872. The experiments,
made were suggested by these
photos. I have found (I
found them 11 years ago and gave
them up to Lord Rose in 1881 when
they at the Congress but Psychical
Inquiries was not wanted them) the physiological
justification of my theory, as Beattie
found the physical. I have had 40 new, all
made lately and shall send them to you
when ready. Believe me
Very truly Yours John E. Purdon M.D.
(Late Surg. Major Reg. Army)

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Prof. Langley
Smithsonian Institution
Washington, D.C.

My dear Sir,

I have this
day sent to the Smith-
sonian Institution some
photographs of pulse-
tracings taken by me in
the case of a group of
"nervous susceptibles", with
the view of proving the
existence of nervous
attraction or influence
and the manner of it.
The work was all done
by myself ten years ago.
The time is now coming
to bring my discovery to

the report as psychologists
will be prepared to
accept it briefly

May I just mention
in this short communication
that - Williams and Lynch
were two male prisoners
under guard in a room
by themselves and that
Henge was a woman stay-
ing in the next room with
a solid brick wall between
the two and that she never
had any communication
whatsoever with either of
the men whose pulse
tracings on occasion
were found to resemble
hers so closely. All the
work was done by myself
and many of the knocks
referred to in the tracings

were heard by me
while the sprints were
being taken by the 8 ft by 5
in people.

I also send you copies
of the original photos. re-
ceived by me from W.
Beattie in 1872. I regard
them as absolutely genuine;
in fact, they speak for
themselves. I have used
them as the text of many
of my own theoretical specu-
lations and indeed it was
with the view of giving them
a physiological interpreta-
tion that I began my ex-
perimental research but
the "various sensitivities" also
referred to.

There is doubt, from
my somewhat large experience

in this department of
psychology, in that - in
the thorough application
of the principles involved in
this discovery we possess
the means of bringing
a great deal of ap-
parent-contradictory and
transcendental material
within the range of
rational Science.

I hope to have the pleasure
of sending you an ex-
planatory pamphlet
before long.

Remain

Very dear Sir,

Very truly yours

John E. Purdon

Univ. & Coll. Med.

Smithsonian Institution

⊕

Washington, D. C., Dec. 30, 1892.

Dear Doctor- (Billings):

I take the liberty of sending you by messenger herewith a letter from Doctor- John E. Purdon of Cullman Ala. together with a copy of a monograph by Doctor- Purdon The Psychical Import of Variable Achromatopsia and a collection of photographs of Sulce tracings.

The subject of Doctor- Purdon's investigations is one on which I hardly feel qualified to express

Smithsonian Institution

Washington, D. C., _____ 188__

an intelligent opinion but I have
thought the matter might be
of interest to you.

I have informed Doctor Furdon
of my action

Very truly yours
S. P. Langley
Secretary.

Doctor John S. Billings U.S.A.
Army Medical Museum
Washington, D.C.

149800
GEOGRAPHICAL



True copies of photos taken by Mr. J. H. Beattie and Dr. Thompson of Bristol, in 1872 - J. H. Pearson - m.d.



These
were
taken
in
the
house
of
the
Rev. Mr. [unclear]

1851



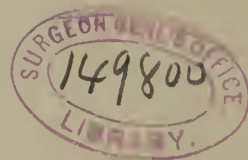
1851

1851





These are the photos taken by Mr. John Peckham
 at the residence of the President in 1872 J. E. Fox gave him





with jewelry - 1861 5 in. 2 in. 10 in. 10 in.

from series 7 of 10
 taken between 1861 & 1862
 at 12 1/2

11 15

2. 4

T. J. BERRY,
CULLMAN, ALA.

Duplicates of this can be had at any time.

LIBRARY
No. 148671
SURGEON GENERAL'S OFFICE

T. J. BERRY,

CULLMAN, ALA.

4:10 PM

B

1

2

3

4

5

6

7

Thiamus 8

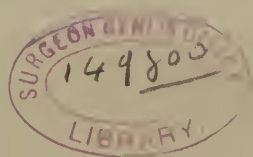
9

Thiamus 10



P. 3.5

P. 4.5



1

31

2

eye 3

3084

See 8.
Jan. 5

eye 4

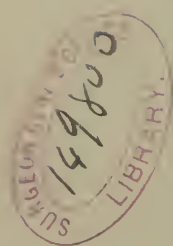
See 8. 10
Jan. 8

emb 1803

Mr. T. C. to Jan. 1803

1.

2



January 9th - 1888.

B.

1

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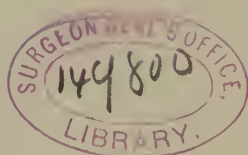
8

Range 9

Range 10



Jan 10
Jan 11
Jan 12



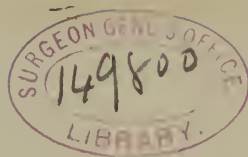
January 9th - 1842

C

- 1,
- William 2,
- William 3,
- William 4,
- Lynch 5
- 6,
- 7,
- 8



See 5
See
Jan
See
Jan
See 2a



May 11th - 1862.

B

1

2

3

Williams 4

Williams 5

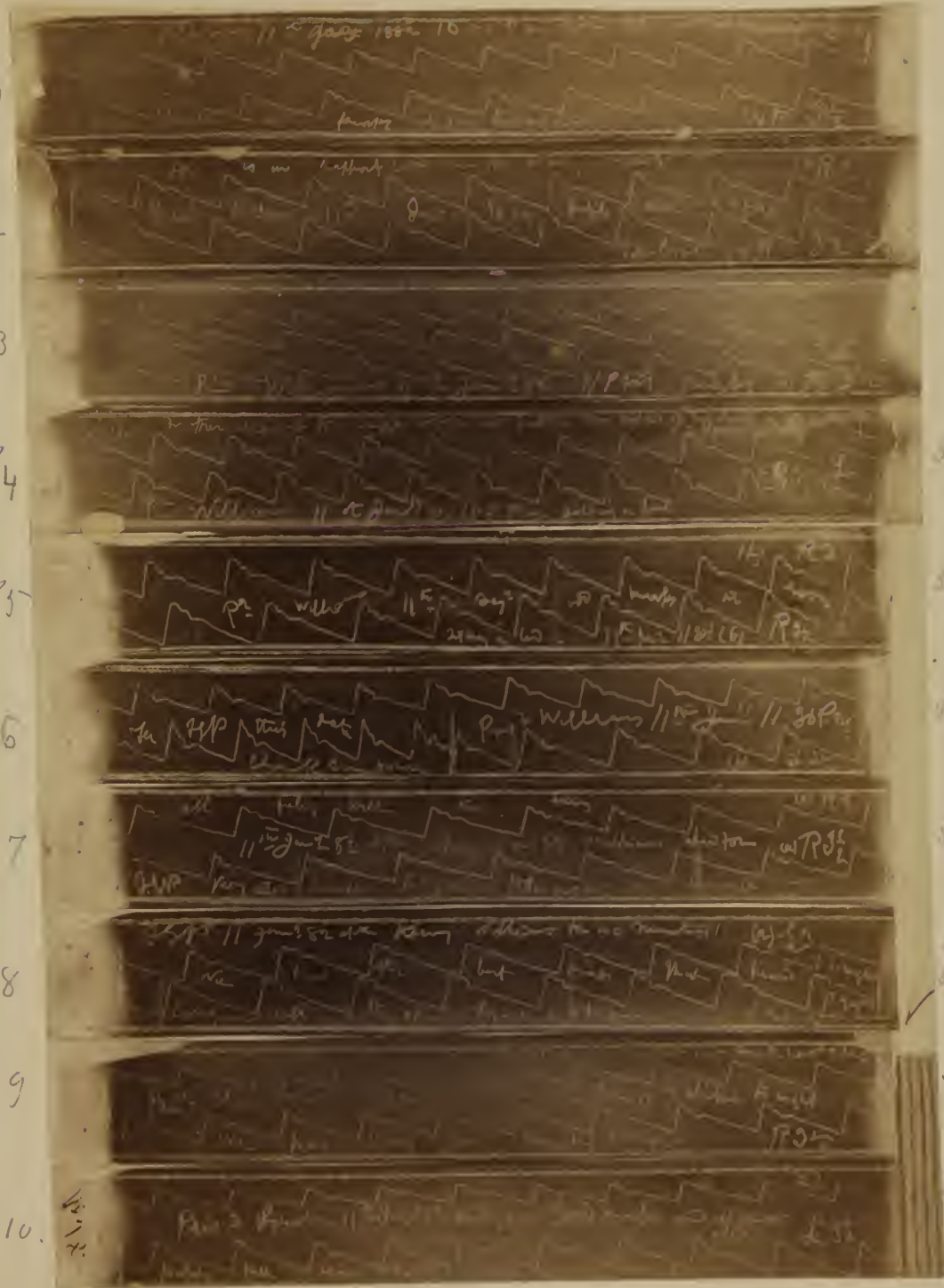
Williams 6

Weldon 7

Weldon 8

Lynch 9

Lynch 10.





May 12th 1862

C

1. 2

Albans 2.

Lynch 3

4

5.

6.

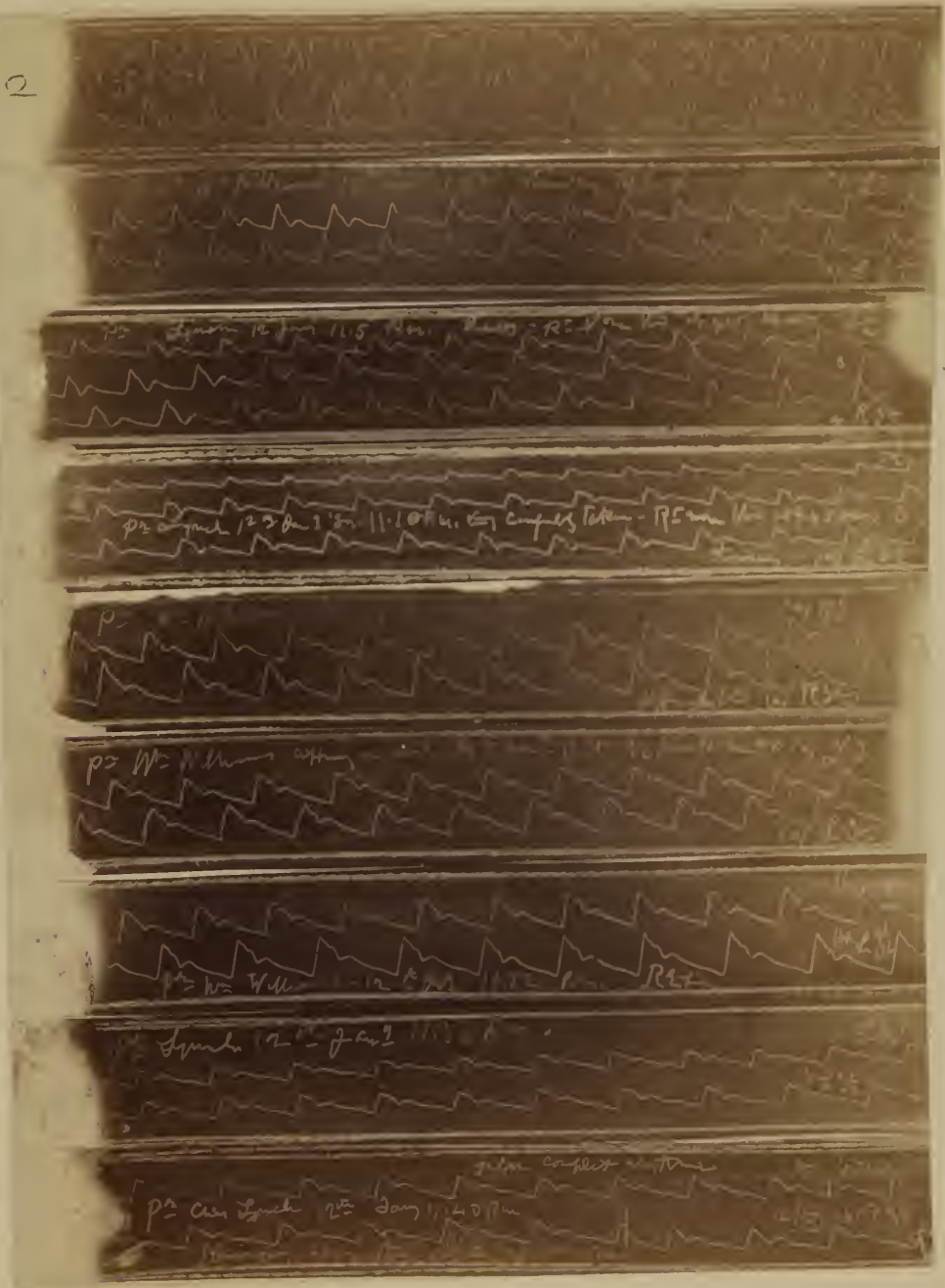
7.

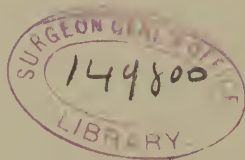
8.

9.

See below

See below





Jan 12-1882

D

1



2



Station 3

12-12

P = W/W

See 4 below

Each 4



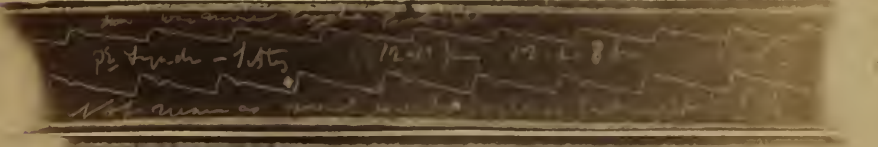
See 5 below

5

P = Trade - 1st

12-11

12-18



6

12-11

12-11

12-11



7

12-11-9
12-11-9
12-11-9

12-11-9

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8

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12-11-9

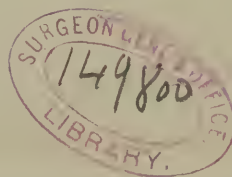
12-11-9

12-11-9

12-11-9

12-11-9





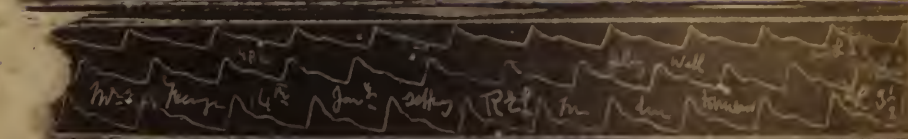
May 14th 1882.

1

1.



2.

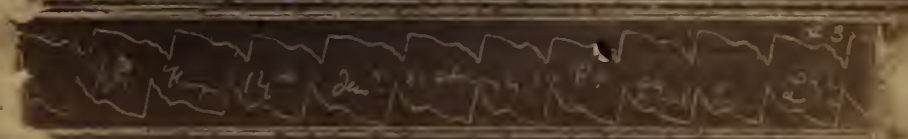


3.



Fence

4.



Fence

5.



Fence

6.



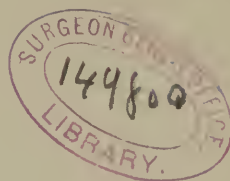
Fence

Dec 4 r.
Jan 14th

Dec 6
Jan. 14th

Dec 8.
Jan. 14th

Dec 7.
Jan. 14th



January 14th 1882
B



Williams 4.

Williams 5.

Williams 6.

Williams 7.

Williams 8.

9.

10.

Dec 3.
Jan. 14th A

do. do

Dec 6.
Jan. 14th A

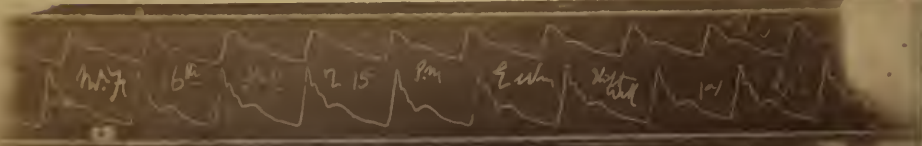
Dec 6.
Jan. 14th A

Dec 5.
Jan. 14th A

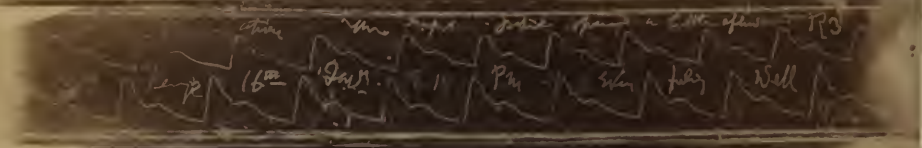


Jan 16 - 1882

1



2



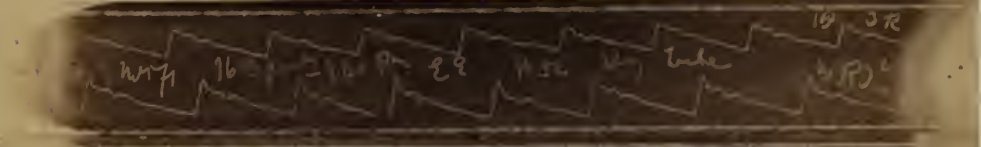
3



4

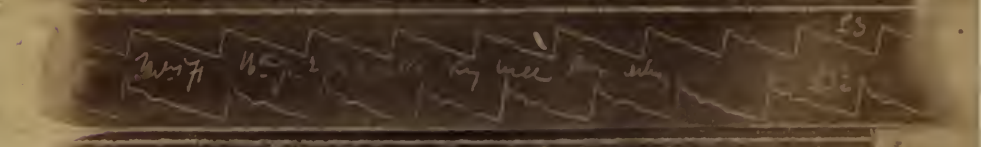


Range 5



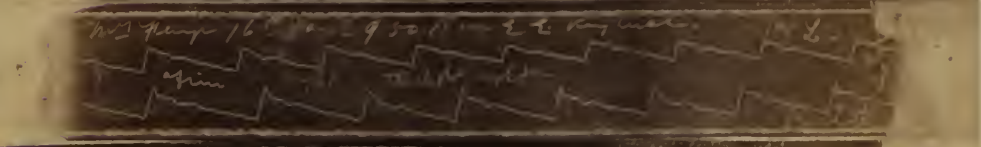
See 2. Jan 16"
See 3 & 4. Jan. 16"

Range 6



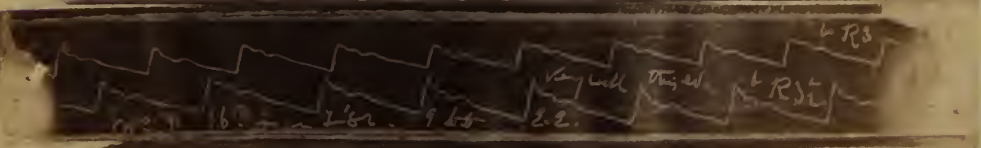
See 6. Jan. 16"
See 2. Jan.

Range 7



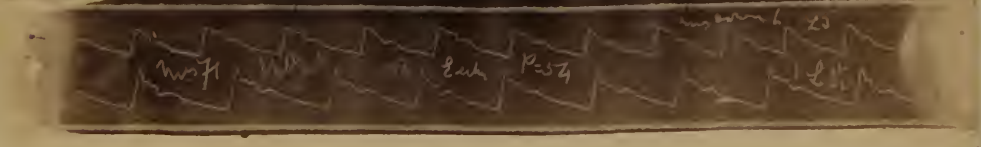
See 5. Jan. 16"

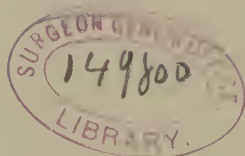
Range 8



See 2, 6 &
Jan. 16" B.

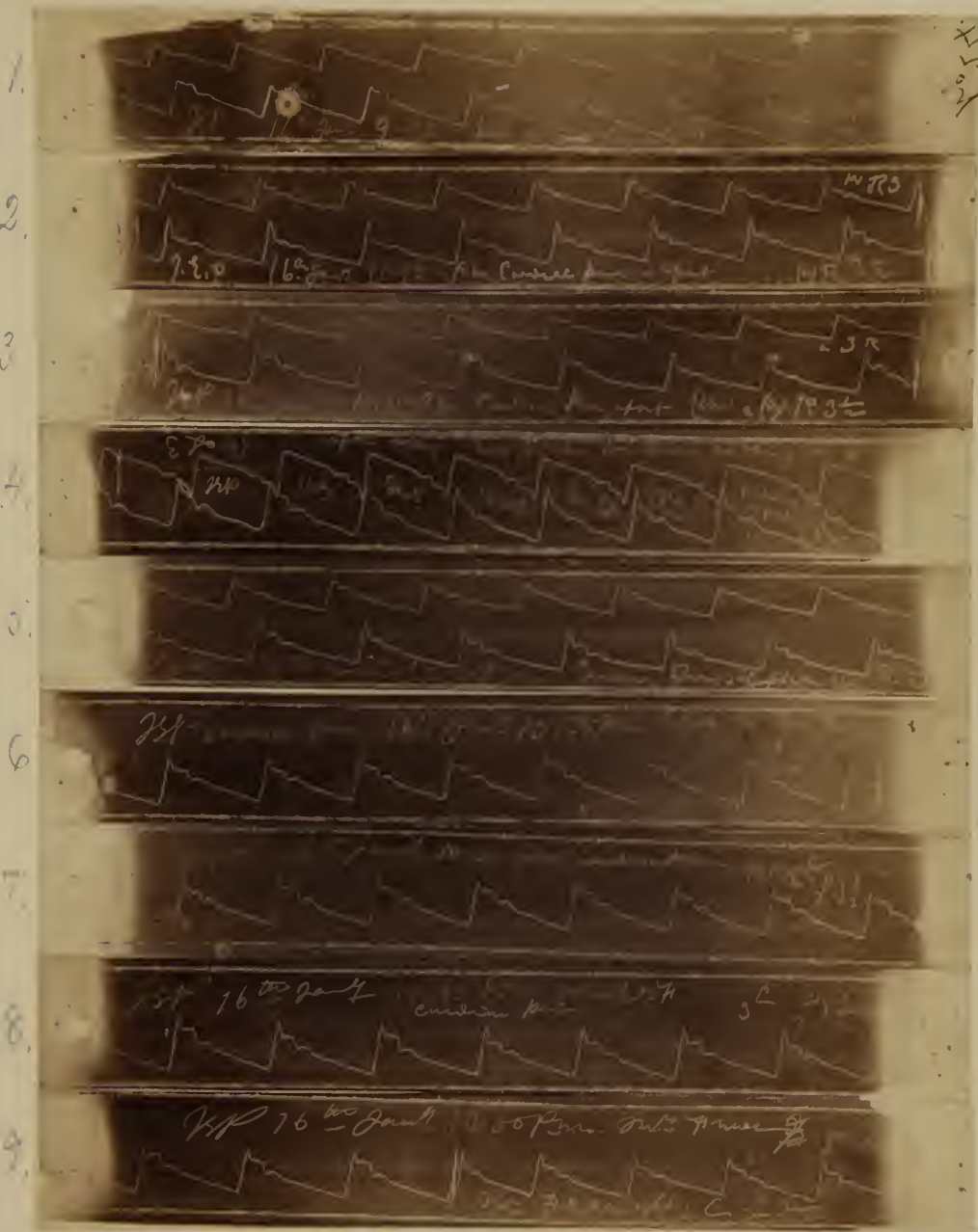
Range 9





January 16th - 1882

B.



Purdon

2.

See 5, 6 & 9.
Jan. 16th A

3.

4.

5.

Purdon 6

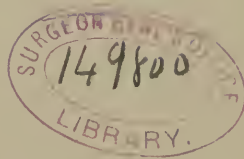
See 6 & 9.
Jan. 16th A

Purdon 7.

See 9. Jan. 16

8.

9.



2

1

"

Lynch 3

Lynch 2

Lynde S.

6

7

Dec 5 Jan. 1914

See T. Jan 16. "A"



Jan 19-1882

A

Reams,

See 3 below

Reams,

do.

Yuck 3

See 1 & 2
above.

4

Yuck 5

See 1.
Jan. 19th B

Yuck 6

do.

Yuck 7

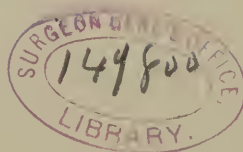
See 5.
Jan. 19th B

Yuck 8

do.

Yuck 9

do.



January 19th - 1882

3

William

11
10

See 5 & 6
Jan 19th A

2

3

4

William 5

6

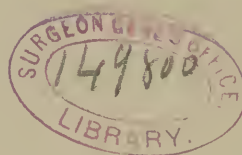
7

8

9

See 1, 8 & 9.
Jan. 19th A

RS



January 26th 1892.

Fence 2.

See 4. Jan. 20. 1892.

Fence 3.

See do.

Fence 4.

See 4. Jan. 20. 1892.

Fence 5.

See 4. Jan. 20. 1892.

Fence 6.

See 4. Jan. 20. 1892.

10 1/2



Jan 20th 1882
B

1

2

3

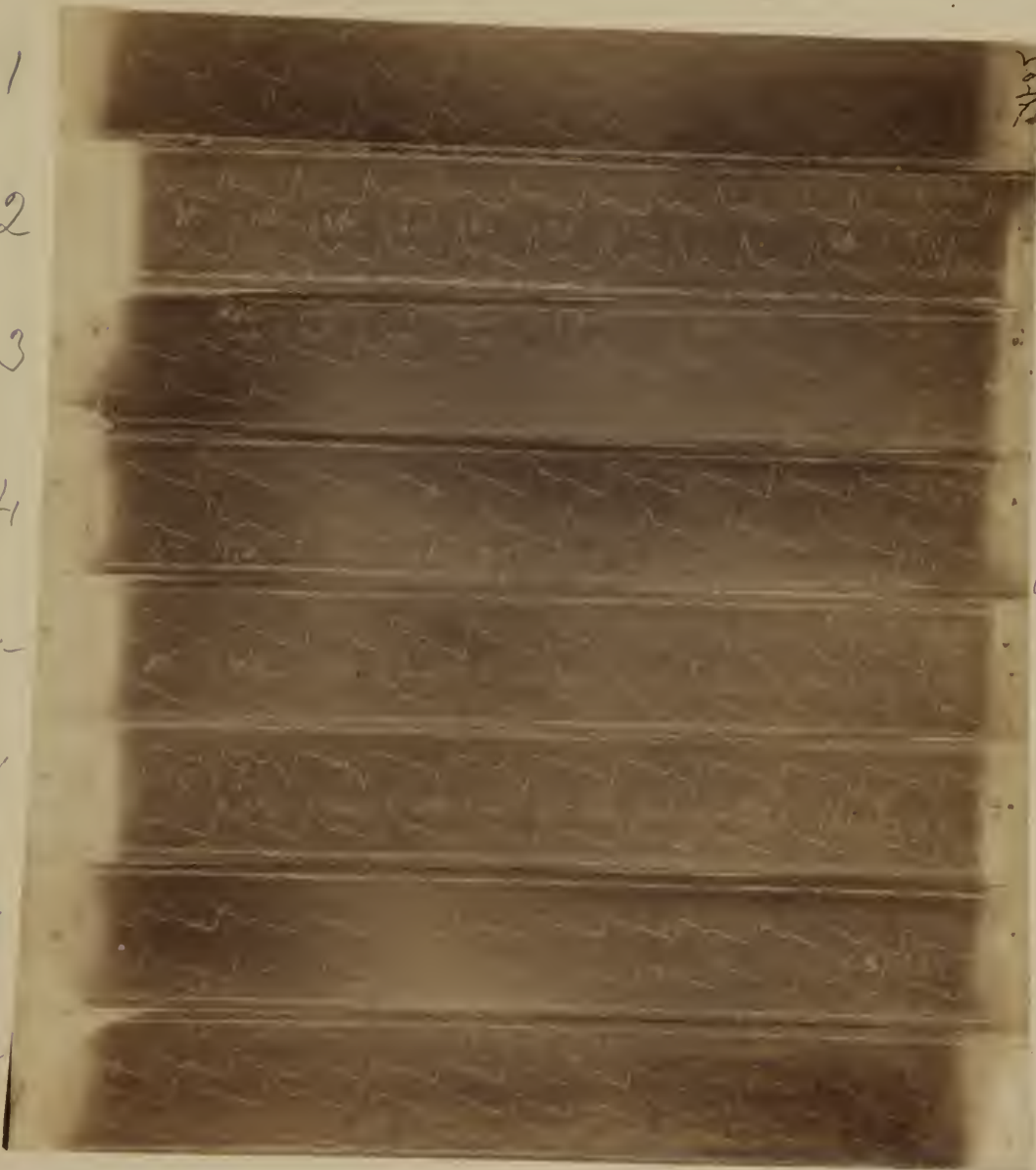
Williams

5

6

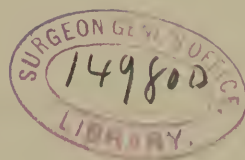
7

8



2
3
4

See 2, 3, 5 & 9.
Jan. 20th A



²
moh 2

ynch 3

¹
ynch 4

William

Vilcaus

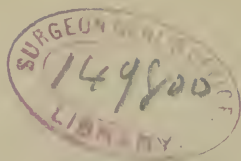
See
Jan 2

See 5

See 6

See 3

See 4



Jan 25th 1882

B.
Lynch
7.5 P.M. Jan 25

Lynch
2

Lynch
3

4

below 9 P.M.
then taking Lynch
through trees

Purdon
P.M.
6

celly 7

8

celly 9

10



See below

See 4. Jan 25
See 5 below

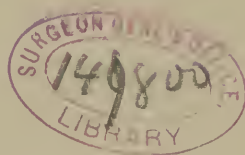
See below

See 2 below

See 1 below

See 4 Jan 25

See 4 Jan 25



January 25th 1882.

D

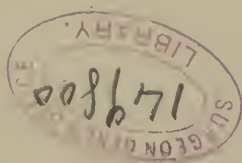
Phedon 12.30 midnight
am. 25-

Phedon



Dec 20

Dec 20



January 27th - 1882

Williams 1,

Williams 2,

Lynche

Lynche 4

3,

6.



Dec 5

Dec 6

Dec 10

Dec 20



